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|-------------------------|-------------|----------------------|---------------------|------------------|
| 10/717,632              | 11/21/2003  | Victor Verbinski     | SAIC0055-CCIP2      | 9218             |
| 27510                   | 7590        | 12/28/2007           | EXAMINER            |                  |
| KILPATRICK STOCKTON LLP |             |                      | LEE, SHUN K         |                  |
| 1100 Peachtree Street   |             |                      | ART UNIT            | PAPER NUMBER     |
| Suite 2800              |             |                      | 2884                |                  |
| ATLANTA, GA 30309       |             |                      |                     |                  |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

|  |                 |                  |
|--|-----------------|------------------|
| <b>Office Action Summary</b>   | Application No. | Applicant(s)     |
|  | 10/717,632      | VERBINSKI ET AL. |
| <b>Period for Reply</b>  | Examiner        | Art Unit         |
|  | Shun Lee        | 2884             |
| <i>-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --</i>   |                 |                  |
| <p>A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.</p> <ul style="list-style-type: none"> <li>- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.</li> <li>- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.</li> <li>- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).</li> </ul> |                 |                  |
| <b>Status</b>  |                 |                  |
| <p>1)<input checked="" type="checkbox"/> Responsive to communication(s) filed on <u>06 August 2007 and 05 October 2007</u>.</p> <p>2a)<input checked="" type="checkbox"/> This action is FINAL.      2b)<input type="checkbox"/> This action is non-final.</p> <p>3)<input type="checkbox"/> Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under <i>Ex parte Quayle</i>, 1935 C.D. 11, 453 O.G. 213.</p>  |                 |                  |
| <b>Disposition of Claims</b>   |                 |                  |
| <p>4)<input checked="" type="checkbox"/> Claim(s) <u>1,2,4,5,7,8 and 43-46</u> is/are pending in the application.</p> <p>4a) Of the above claim(s) _____ is/are withdrawn from consideration.</p> <p>5)<input type="checkbox"/> Claim(s) _____ is/are allowed.</p> <p>6)<input checked="" type="checkbox"/> Claim(s) <u>1,2,4,5,7,8 and 43-46</u> is/are rejected.</p> <p>7)<input type="checkbox"/> Claim(s) _____ is/are objected to.</p> <p>8)<input type="checkbox"/> Claim(s) _____ are subject to restriction and/or election requirement.</p>   |                 |                  |
| <b>Application Papers</b>  |                 |                  |
| <p>9)<input type="checkbox"/> The specification is objected to by the Examiner.</p> <p>10)<input checked="" type="checkbox"/> The drawing(s) filed on <u>21 November 2003</u> is/are: a)<input checked="" type="checkbox"/> accepted or b)<input type="checkbox"/> objected to by the Examiner.</p> <p style="margin-left: 20px;">Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).</p> <p style="margin-left: 20px;">Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).</p> <p>11)<input type="checkbox"/> The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.</p>   |                 |                  |
| <b>Priority under 35 U.S.C. § 119</b>  |                 |                  |
| <p>12)<input type="checkbox"/> Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).</p> <p>a)<input type="checkbox"/> All    b)<input type="checkbox"/> Some * c)<input type="checkbox"/> None of:</p> <p style="margin-left: 20px;">1.<input type="checkbox"/> Certified copies of the priority documents have been received.</p> <p style="margin-left: 20px;">2.<input type="checkbox"/> Certified copies of the priority documents have been received in Application No. _____.</p> <p style="margin-left: 20px;">3.<input type="checkbox"/> Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).</p>   |                 |                  |
| <p>* See the attached detailed Office action for a list of the certified copies not received.</p>  |                 |                  |
| <b>Attachment(s)</b>   |                 |                  |
| <p>1)<input type="checkbox"/> Notice of References Cited (PTO-892)</p> <p>2)<input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</p> <p>3)<input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br/>Paper No(s)/Mail Date <u>20070806</u>.</p> <p>4)<input type="checkbox"/> Interview Summary (PTO-413)<br/>Paper No(s)/Mail Date. _____.</p> <p>5)<input type="checkbox"/> Notice of Informal Patent Application</p> <p>6)<input type="checkbox"/> Other: _____.</p>  |                 |                  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1, 2, 4, 5, 8, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swift *et al.* (US 5,764,683) in view of Armisted (US 5,838,759) and Morgan (US 3,240,971).

In regard to claim 1, Swift *et al.* disclose (Fig. 2A) a target object inspection system comprising:

(a) a first detector ("... at least one detector mounted on the bed ... the at least one detector may be ... a transmission detector"; column 2, lines 13-21) for detecting radiation from a radiation source ("... transmitted x-ray beam ... from the x-ray source ... "; column 9, line 66 to column 10, line 29);

(b) a mobile platform (24) including the first detector and the radiation source, wherein the mobile platform (24) is a truck (24) which includes a truck bed, and the first detector is located on the truck bed (" ... at least one detector mounted on the bed ... the at least one detector may be ... a transmission detector"; column 2, lines 13-21); and

(c) a boom (32) connected to the mobile platform (24) at a second end of the boom, wherein the first end of the boom is deployed (see Fig. 2A) so as to effect passage of the target object (22, 23) between the first detector (located on the truck bed; column 2, lines 13-21) and the radiation source (is connected to the first end of the boom since the mobile platform (24) and the target object (22, 23) pass alongside one another during inspection; column 9, line 66 to column 10, line 29), and the mobile platform (24) being capable of inspecting a target object (22, 23) either when the mobile platform (24) is stationary or when the mobile platform (24) is moving.

While Swift *et al.* also disclose that the at least detector mounted on the bed is capable of operating in integral mode, wherein the at least detector detects only while ON and is turned ON and OFF (e.g., "shut down"; column 9, lines 61-65) by an operator, the system of Swift *et al.* lacks that the at least detector mounted on the bed comprises at least one helium neutron detector for detecting neutrons from the target object wherein the helium neutron detector is capable of operating in differential mode where the neutron detector is always ON and is set to detect neutrons above a pre-set threshold level. However, Armisted teaches (column 3, lines 6-8) to provide a neutron detector in order to detect contraband comprising special nuclear material. In addition, Morgan teaches (column

1, line 9 to column 2, line 23) that helium neutron detectors have a high efficiency for detection of neutrons wherein a threshold discriminator is employed for discrimination against noise. Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to provide at least one high efficiency neutron detector with threshold discriminator (*i.e.*, a helium neutron detector for detecting neutrons from the target object wherein the helium neutron detector is capable of operating in differential mode where the neutron detector is set to detect neutrons above a pre-set threshold level) in the system of Swift *et al.*, and is always turned ON in order to continuously detect for contraband comprising special nuclear material.

In regard to claim 2 which is dependent on claim 1, Swift *et al.* also disclose (column 9, line 66 to column 10, line 29) that the first detector is a photon detector.

In regard to claim 4 which is dependent on claim 1, Swift *et al.* also disclose that the first detector detects radiation from the radiation source after the radiation passes through the target object ("... transmitted x-ray beam ..."; column 9, line 66 to column 10, line 29).

In regard to claim 5 which is dependent on claim 1, Swift *et al.* also disclose that the radiation source is a gamma radiation source (*i.e.*, "... more energetic forms of radiation ..."; column 3, lines 41-54).

In regard to claim 8 which is dependent on claim 1, the system of Swift *et al.* lacks an explicit description of an indicator for indication the presence of neutrons. However, Swift *et al.* also disclose (column 7, line 55 to column 8, line 12) displays for displaying radiation images. Therefore it would have been obvious to one having

ordinary skill in the art at the time of the invention to that the displays in the system of Swift *et al.* is an indicator for indication the presence of radiation (e.g., neutrons).

In regard to claim 43 which is dependent on claim 1, the system of Swift *et al.* lacks a processor capable of receiving first data from a velocity measuring device indicative of the velocity of the target during inspection and capable of receiving second data from the first detector and forming an image of the contents of the target object using the first and second data. Armisted teaches (column 9, line 48-66) to measure and correct for irregularities in motion. Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to provide first data from a velocity measuring device to a processor in the system of Swift *et al.*, in order to correct for irregularities in motion of the target during inspection.

4. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Swift *et al.* (US 5,764,683) in view of Armisted (US 5,838,759) and Morgan (US 3,240,971) as applied to claim 2 above, and further in view of Kubierschky *et al.* (US 4,893,015).

In regard to claim 7 which is dependent on claim 2, while Swift *et al.* also disclose (column 7, line 55 to column 8, line 12) displays for displaying radiation images (e.g., of the target object), the modified system of Swift *et al.* lacks that the displays are responsive to a counter for discretely counting photons received by the first detector. However, Kubierschky *et al.* teach (column 1, lines 37-64) to detect and count detect discrete pulses so that low levels of radiation can be detected. Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to provide

a counter for discretely counting photons received by the first detector in the modified system of Swift *et al.*, in order to detect low levels of radiation.

5. Claims 44 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swift *et al.* (US 5,764,683) in view of Armisted (US 5,838,759) and Morgan (US 3,240,971) as applied to claim 43 above, and further in view of Asano *et al.* (US 5,629,669).

In regard to claims 44 and 45 which are dependent on claim 43, the modified system of Swift *et al.* lacks that the velocity measuring device is a Doppler radar system or a radar range finder. However, Armisted teaches (column 9, line 48-66) to measure and correct for irregularities in motion. In addition, Asano *et al.* teach (column 24, lines 30-39) to provide a doppler radar range finder, in order to measure vehicle speed. Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to provide first data from a velocity measuring device (e.g., a doppler radar range finder) to a processor in the system of Swift *et al.*, in order to correct for irregularities in motion of the target during inspection.

6. Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over Swift *et al.* (US 5,764,683) in view of Armisted (US 5,838,759) and Morgan (US 3,240,971) as applied to claim 43 above, and further in view of Hoffmann (US 4,173,010).

In regard to claim 46 which is dependent on claim 43, the modified system of Swift *et al.* lacks that the velocity measuring device comprises at least two pressure pads spaced a known distance apart. However, Armisted teaches (column 9, line 48-66) to measure and correct for irregularities in motion. In addition, Hoffmann teaches

(column 2, lines 36-58) it is known to provide two pneumatic hoses (*i.e.*, pressure pads) spaced a known distance apart, in order to measure vehicle speed. Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to provide first data from a velocity measuring device (*e.g.*, at least two pressure pads spaced a known distance apart) to a processor in the system of Swift *et al.*, in order to correct for irregularities in motion of the target during inspection.

***Response to Arguments***

7. Applicant's arguments filed 5 October 2007 have been fully considered but they are not persuasive.

Applicant argues that Swift *et al.* do not teach or suggest a radiation source connected to the deployable (or any) end of a boom. Examiner respectfully disagrees. First it is noted that applicant has not demonstrated the criticality of the location of the radiation source. Further, reversal of parts is one of the common practices which the court has held normally require only ordinary skill in the art (MPEP § 2144.04). In addition, a reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art (MPEP § 2123). In this case, Swift *et al.* state (column 2, lines 13-21) that "... at least one detector mounted on the bed ... the at least one detector may be ... a transmission detector". Thus Swift *et al.* expressly teach a transmission detector mounted on the bed. Swift *et al.* also state (column 9, line 66 to column 10, line 4) that "... the intensity of the transmitted x-ray beam may be measured by a single, elongated transmission detector located on the opposite side of the inspected object from the x-ray source ...". Thus Swift *et al.* expressly teach that the inspected object is sandwiched by the x-ray

source and the x-ray detector. That is, an embodiment wherein the x-ray source is located on the end of a boom and the x-ray detector located on mobile platform is equivalent to another embodiment wherein the x-ray detector is located on the end of a boom and the x-ray source located on mobile platform. Therefore to one of ordinary skill in the art, Swift *et al.* teach or suggest a radiation source connected to the deployable end of a boom.

Applicant also argues that the configuration with a beam stop (34) when the boom is deployed actually teaches away from the claimed configuration since it would be nonsensical to have a beam stop on the same end of a boom as the radiation source. Examiner respectfully disagrees. The prior art's mere disclosure of more than one alternative does not constitute a teaching away from any of these alternatives because such disclosure does not criticize, discredit, or otherwise discourage the solution claimed (MPEP § 2141.02).

Applicant further argues that the system set forth in Swift *et al.* is operated in a single mode where the mobile platform is moving and does not operate in a stationary mode. Examiner respectfully disagrees. Swift *et al.* state (column 5, lines 49-51) that "... the object is moved at a constant, slower speed along a path perpendicular to the fan, on a horizontally moving conveyor belt for example". Thus Swift *et al.* expressly teach imaging wherein the inspected object is scanned by moving the inspected object at a constant speed. Therefore, Swift *et al.* teach or suggest imaging wherein the inspected object is scanned by either movement of the mobile platform with the inspected object stationary or movement of the inspected object with the mobile platform stationary.

Applicant then argues that no reference or combination of references teach or suggest a single helium neutron detector capable of operating in two different modes. Examiner respectfully disagrees. Swift *et al.* state (column 9, lines 61-65) that “... electronic systems are shut down ...” and Morgan states (column 5, lines 14-18) “... operating voltages ...”. Thus the cited prior art clearly teaches that detectors require power to operate and that the required operating power is supplied at the discretion of an operator. This is, the detectors described in the cited prior art have a mode of operation wherein the detector only detects while ON (*i.e.*, when supplied with the power need to operate). Further, Morgan states (column 2, lines 10-23) that “... threshold discriminator employed in such uses for discrimination against gamma-rays, noise, etc. ...”. Thus Morgan expressly teaches that a threshold discriminator may be employed. That is, the neutron detectors described in the cited prior art have a mode of operation wherein the detector detects neutrons above a threshold pre-set within a threshold discriminator when the neutron detector is supplied with operating power. Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention that neutron detectors are capable of two modes of operation: (a) a first mode wherein the detector only detects neutrons when the neutron detector is ON; and (b) a second mode wherein the detector detects neutrons above a pre-set threshold when the neutron detector is ON.

### ***Conclusion***

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

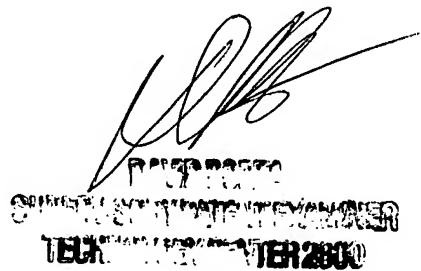
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shun Lee whose telephone number is (571) 272-2439. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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